

970 980 990 1000 1010 1020
AGGTTTACCG CATTTTGACA CTAGATGGCA TCCGTCCCAC GGGTAGCAGG TCATGAAGCT
TCCAAATGGC GTAAAACTGT GATCTACCGT AGGCAGGGTG CCCATCGTCC AGTACTTCGA

1030 1040 1050 1060 1070 1080
GACCAAGGCA AGTCCCTTTCA GGGGAAGAA AATCAGGARA AAAAAAATT TTAGAAGCAT
CTGGTTCCGT TCAGGAAAGT CCCCCTTCTT TTGTGCTTTT TTTTTTTTAA AATCTTCGTA

1090 1100 1110 1120 1130 1140
TTCAAGAAGC AAGATGGAT AATTGTACAA AACAGGTGCT TTCTCCCCCA CCATGCGACC
AAGTTCTTCG TTCTACCTTA TAAACATGTT TTGTCCACGA AAGAGGGGGT GGTACGCTGG

1150 1160 1170 1180 1190 1200
CGGGAGCTCC ACTGATATGG ACAGAAATAGC TTTACAGCTA CATTCAAAAC ACACACACAC
GCCCTCGAGG TGACTATACC TGTCTTATCG AAATGTTCGAT GTAGSTTTTG TGTGTGTGTG

1210 1220 1230 1240 1250 1260
ACACACACAC ACACACACAC ACACACACAC ACACACACAT GTTTTCTTCC CTCCTCCAC
TGTGTGTGTG TGTGTGTGTG TGTGTGTGTG TGTGTGTGTA CAAAAGAAGG GAGGGAGCTG

1270 1280 1290 1300 1310 1320
TTCTCCCAT TCTCTGTGGT CCAAAGAGA TGACCATATT GACTGTAGAA ATCACCACAC
AAGGAGGGTA AGAGACACCA GGGTTTCTCT ACTGGTATAA CTGACATCTT TAGTGTGTG

1330 1340 1350 1360 1370 1380
CATAAAGGCG CATCTGGGAG CCATTTCAG ACTGATCTTT TTATCATTA AATTGTAAT
GTATTTTCGG GTAGACCTC GGTAAAGGTC TGACTAGAAA ARTAGTAAT CCAAACTTAA

1390 1400 1410 1420 1430 1440
CTTGCCACGT GTGGGTTTTA AGCTTTTTAG GGAATTTTTAT CTAGCGGCAC TCACCTGCTT
GAACGGTGCA CACCCAAAT TCCAAAATC CCTAAAATA GATCGCCGTC AGTGGACGAA

1450 1460 1470 1480 1490 1500
CCCTGTGAAT GTTCAGAAAT CACTGGGCTT GGTACGCTAA TGGAAATGAT CTATGGTTTG
GGGACACTTA CAAGTCTTAA GTGACCCGAA CCAGTCCATT ACCTTTACTA GATACCAAAC

1510 1520 1530 1540 1550 1560
ACTTAAATGT GAAAGGAAAA AAAAGAAGGG GGAAGAGGAG GGAGGGAGAA AGAGGGGAAG
TGAATTTACA CTTTCTTTT TTTTCTTCCC CTTTCTCTC CTTCTCTCTT TCTCCCTTTC

1570 1580 1590 1600 1610 1620
GGAAACTGCG CTTTCTTCTC TATGCTTACT CTAACATTTT GTCTCTCACC TTCCACTTGG
CCTTTTGACG GAAATACCG ATAACGATGA GATTGTAAAA CAGAGAGTGG AAGGTGAACC

1630 1640 1650 1660 1670 1680
TTCTTCAATG GAAAGACTGG ATAGAAAGCT GGGAGCCAGC CAGGGATAGG AGGAGTGTGT
AAGAACTTAC CTTTCTGACC TATCTTTTGA CCGTCGGTCC GTCCCTATCC TCTCAGACA

1690 1700 1710 1720 1730 1740
GTGTGTGTGG GGGGGGGTGG GCAGCAAGCA GAGCCTTAGA CACAGAGAAG AGCCTGCTAG
CACACACACC CCCCCCAAC CGTCGTTCTG CTCGGAATCT CTGTCTCTTC TCGGACGATC

1750 1760 1770 1780 1790 1800
AGAYCATGAG CTTTCTTCTG GAGCCCTAGT GCTTACAGGA ATAGTTCTTA ACCAGGTAGC
TCTGTACTTC GAARGAART CTGGGGATCA CGATTGTCTT TATCAAGGAT TGGTCCATCG

1810 1820 1830 1840 1850 1860
TGTGGTCAAG TGAAGTGGCT GGAAGSCCTG GCTTTGTCTT TTTGCTTGT GTGAGGCTT
ACACCAGTGC ACTGAGCCGA CCTTCSGGAC CGAAACAGAA AAACGAACGA CAGGTGGGAA

FIG. 1

Title: GLP-2 RECEPTOR GENE
PROMOTER AND USES THEREOF
Inventor(s): Daniel J. DRUCKER
DOCKET NO.: 016777/0463

0983740-011301

1870 GAACAAACAC	1880 CCTGGCCTCT	1890 TTGAACCCCA	1900 CTATTTCTCA	1910 GCCCTCAGAT	1920 GAAGAAGTAA
CTTGTTTTCTG	GGACCGGAGA	AACTTGGGGT	GATAAAGAGT	CGGGAGTCTA	CITCITCATT
1930 TGGTACCTTG	GAGGATACCTG	ATGGGTTTAA	GTGAAGTAGG	GCAGAGGGTG	GAAGGTTTTG
ACCATGGAAC	CTCCTATGAC	TACCCAAAGT	CAGTTGATCC	CGTCTCCAC	CTTCCAAAAC
1990 TAACCATAAA	CTGAAGTGGG	GTGTTGGTTA	GTAGTAGGCC	ATGAATACCA	TAAAAATATC
ATTGGTATTT	GACTTCACCC	CACAACCAAT	CATTCATCCG	TACTTATGGT	ATTTTTATAG
2050 TGTCAGGTGG	CCAGAGCATC	ACTGTGTCTA	GAACACAACG	GCCCACTCAG	AACACGCCGA
ACAGTGCACC	GGTCTCGTAG	TGACACAAGT	CTTGTTTTC	CGGGTGAGTC	TGTGGGCCCT
2110 CAATTGAAAG	GCACCAACCT	CCGTGCTTCC	TACCCCTTGT	TTTGTTACCG	TGTAAACCCA
GTAACTTTT	CTGCTTCCA	GGCAGCAAGG	ATGGGCAACA	AAACAATGGC	ACATTTCCCT
2170 ACTCAACTCT	CGGCACTGAA	CAGGCTTTTG	CTGCAGACCT	GGGGTCTGGA	GGTGTGTCT
TGACTTCAGA	GCCCTGACTT	GTCCGAAAC	GACGTCTGGA	CCCCAGACCT	CCACAACAGA
2230 CTCAGACAGG	AAAACATATC	TTGTTACTAT	GGCATAGTAG	TAACCACCGA	GCTCTGAGAT
GACTCTCTCC	TTTTGAGTAG	AACAATGATA	CCGTATCATC	ATTGGTGCCCT	CGAGACTCTA
2290 AGCCCCGAGC	TGGTGCCGT	TAGAAAAGTT	TGATGCTTTA	GAACGAAATC	GTGGCTTAAA
TGGGGACTCG	ACCACGGGAA	ATCTTTTCAA	ACTACGAAAT	CITTCCTTTAG	CACCGAATTT
2350 AGAAGCCTAC	CTGGCATGGG	GGCCCATCCT	CTCAGGCTAT	CCGAATCTCA	ATCTGGTCTGT
TCTTCGGATG	GACCTTACCC	CCGGGTAGGA	GAGGTCCGTA	GGCTTAGAGT	TAGACCAGCA
2410 GTGCGTAAAG	ATAGAATCCT	CGCAATGGTA	ACCATGCTTT	GCTTTTCTTT	CTGGGCTTGC
CACGCTTCT	TATCTTAGGA	GCCTTACCCT	TGCTACAGAA	CGAAAAGAA	GACCCGAACG
2470 TGAGGAAGTC	CCAGGACCGG	TAGACCTCTT	GGGGTACGGT	CTGGGAAAAA	TCTCCCAAGA
ACTCTTTCAG	GGTCCCTCCG	ATCTCCAGAA	CCCCATCCA	GACCCTTTTT	AGAGGGTTCT
2530 TTTTAGGAGG	GGCAGGCCGG	GGATCAGAAA	CTTGGAGATT	CGGTAGATCG	CTGTAGAGCA
AAAATCCTCC	CCGTCCGCCC	CCCTACTCTT	GAACCTCTAA	GCCATCTAGC	GACATCTCGT
2590 ACTCAGACAG	TCCGCGGCCCT	GAAGAGGACT	TGTGCAAAACA	CTTCCTCTCT	GGACAAGGAG
TGAGTCTGTC	AGCCGCGCGA	CTTCTCCTGA	ACACGTTTGT	GARGGAGAGA	CCTGTTCCTC
2650 GAATGCAGGA	GGCCACCGCC	TGCAGTACAT	CTTGGAGTGT	TGGAGGGATG	TGCTTCGACT
CTTACGTCTT	CCGGTGGCGG	ACGTCATGTA	GAACCTCACA	ACCTCCCTAC	ACGGACGTGA
2710 TGTGAAAGGG	CGCCAGAGGG	ACCGAGGCCCC	AAACCAAGCCC	GGCAGTGCCC	AGTAGATGCA
ACACTTTCCC	CGGGTCTTCC	TGCTCCGCGG	TTGGTTCCGG	CCGTACCGGG	TCATCTACCT
2770 GAAAGCGTCC	CTGCCCCCGG	CGCACAGTGG	GGTCCCTTCC	GCCCAAGGGG	CGTGAAGTCT
CTCTCCGAGG	GATGGGGCCC	GCCTGTCAAC	CCGAGGGAGC	CCGGCTTCCC	GGACTCAGAG

Putative transcriptional start site (5' end of rat brain 5'-rncu product).

Corresponds to translational start site in rat/human GLP-2R gene.

FIG. 1 cont.

Title: GLP-2 RECEPTOR GENE
PROMOTER AND USES THEREOF
Inventor(s): Daniel J. DRUCKER
DOCKET NO.: 016777/0463

Putative translational start site in murine GLP-2 Receptor gene.

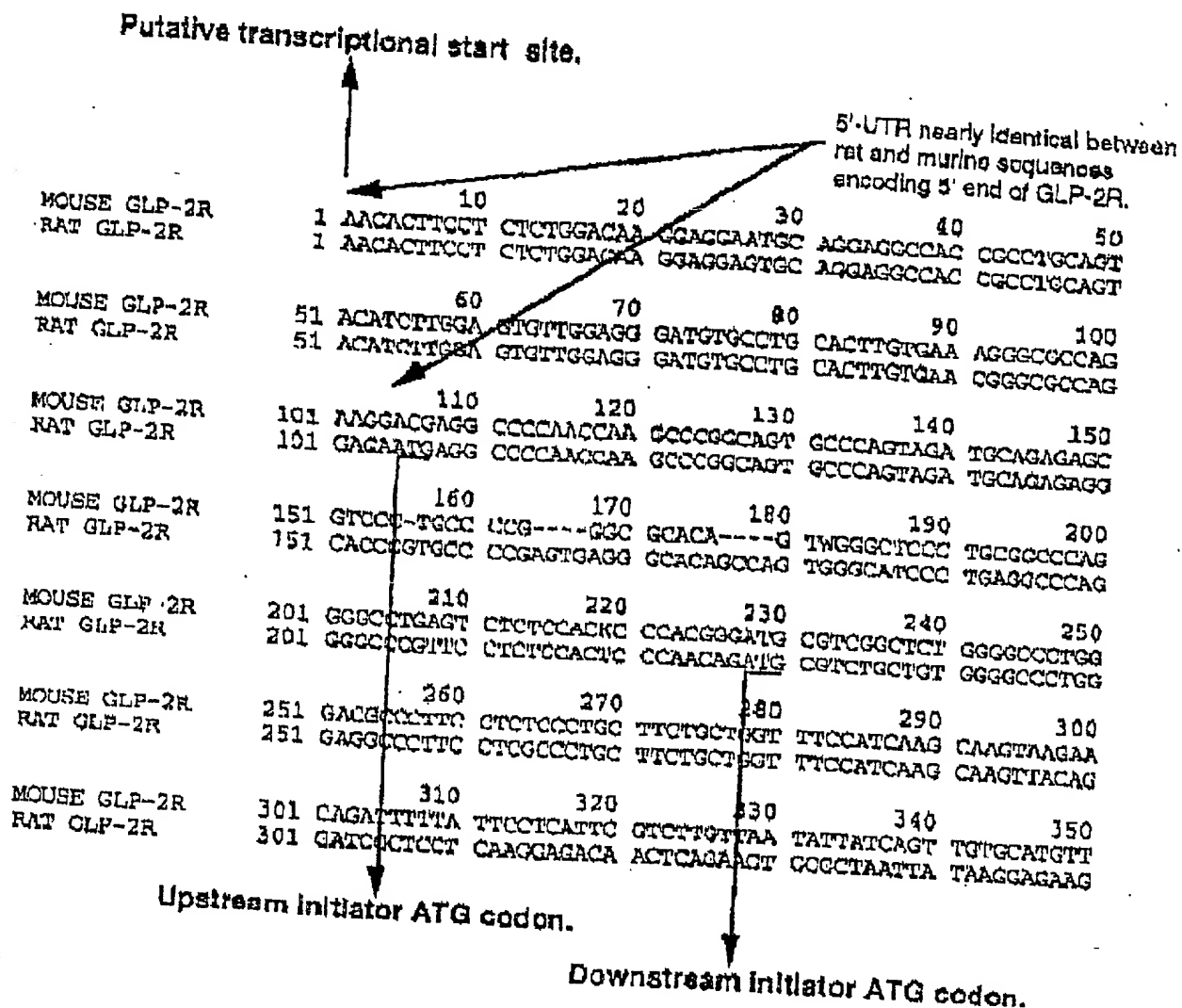
2830	2840	2850	2860	2870	2880
TCCACKCCCA	CGGATGCGT	CGGCTCTGGG	CCCTTGGGAC	CCCTTCCTC	TCCCTGCTTC
ASGTGCGGT	GGCTACGCA	GGGAGACCC	CGGACCCCTG	CGGGAACGAG	AGGGACGAAG
2890	2900	2910	2920	2930	2940
TGCTGGTTTC	CATCAACCAA	GTAAGAACAG	ATTTTATTTC	CTCATTCGTC	TIGTTAATAT
ACGACCAAAG	GTACTTCGTT	CATTCTTGTC	TAAAAATAAG	GAGTAAGCAG	AACAATTATA
2950	2960	2970	2980	2990	3000
TATCAGTTGT	GCATGTTTTT	TGAGTGTACA	AGCAATTTAG	CCCCCGTGTA	GGCAATTTGG
ATAGTCAACA	CGTACAAAG	ACTCACATCT	TCGTTAAATC	CGGGGCACAT	CCGTTAAACC
3010	3020	3030	3040	3050	3060
GTAAGAATAA	AACCATATTA	ACAAATGAG	GCTCAACCAC	AACCCAGTA	GCATTCTGCT
CATTCTTATT	TTGGTATAAT	TCTTTTACTC	CGAGTTGGTG	TTGGGTCAT	CGTAAGACGA
3070	3080	3090	3100	3110	3120
CATTCTTCAT	ATTTTGGCTG	ATTTTAAAAA	AAATTCCTTT	TTCTGTGCAT	TATTTTACAC
GTGAAAGTA	TAAAACCGAC	TAAAAATTTT	TTTAAGAGAA	AAGACACGTA	ATAAAATGTG
3130	3140	3150	3160	3170	3180
AGCCGAAATT	.....	.....	.....	.....	.....
TCGGCTTTAA	.....	.....	.....	.....	.....

3'-End of murine GLP-2 Receptor gene sequenced to date.

FIG. 1 cont.

Title: GLP-2 RECEPTOR GENE
PROMOTER AND USES THEREOF
Inventor(s): Daniel J. DRUCKER
DOCKET NO.: 016777/0463

Sequence alignment of the 5' end of the mGLP-2 receptor gene with the 5' end of the cDNA encoding the rat GLP-2R.



Sequence alignment of the 5' end of the mGLP-2 receptor gene with the 5' end of the cDNA encoding the rat GLP-2R.

The 5' end of the cDNA encoding the rat GLP-2R (cloned by 5'-RACE) is presented in alignment with the corresponding region of sequence encoding the murine GLP-2R. The upstream initiator ATG codon is present in the rat sequence, and the downstream initiator ATG codon is conserved between in both the rat and murine sequences encoding the GLP-2R. The sequence corresponding to the putative 5'-UTR (untranslated region) is nearly identical between the rat and murine sequences presented.

FIG. 2

DOCKET NO.: 016777/0463

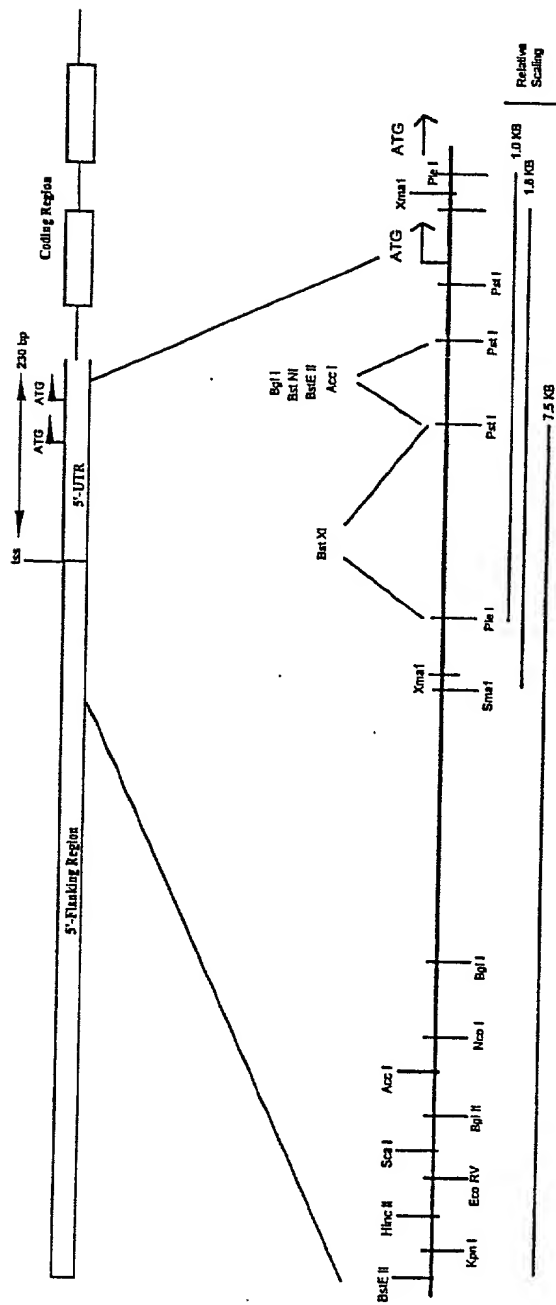
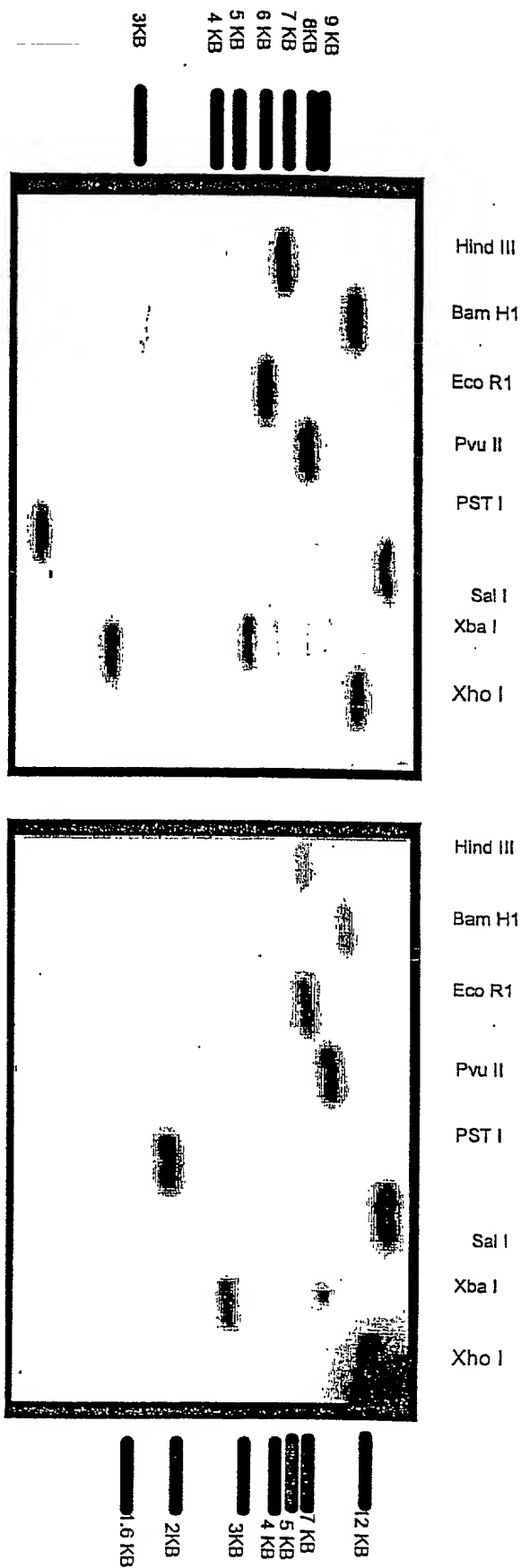


FIG. 4



00000000.044301

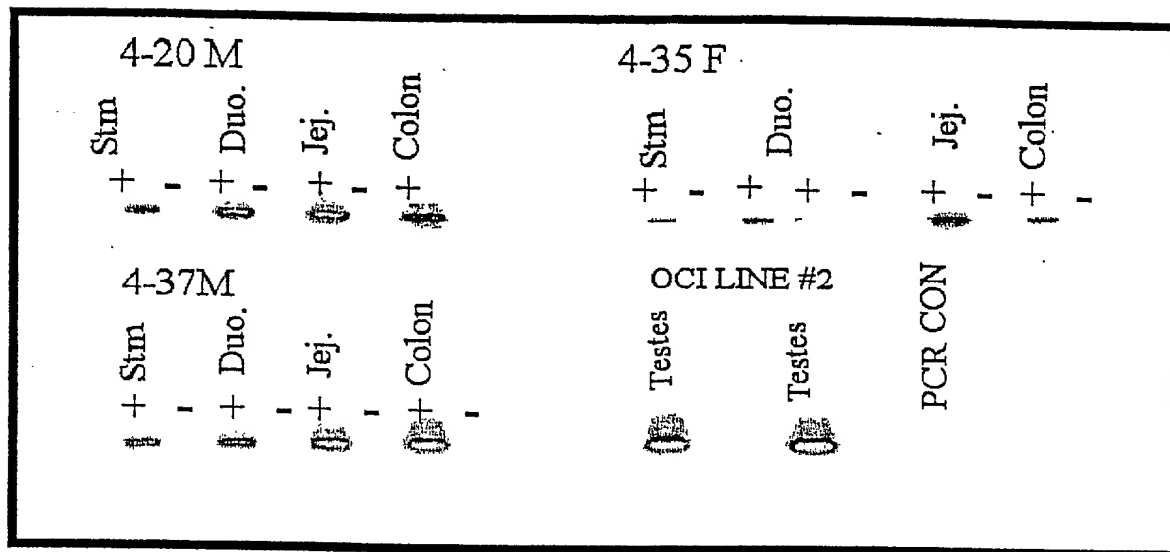


FIG. 5

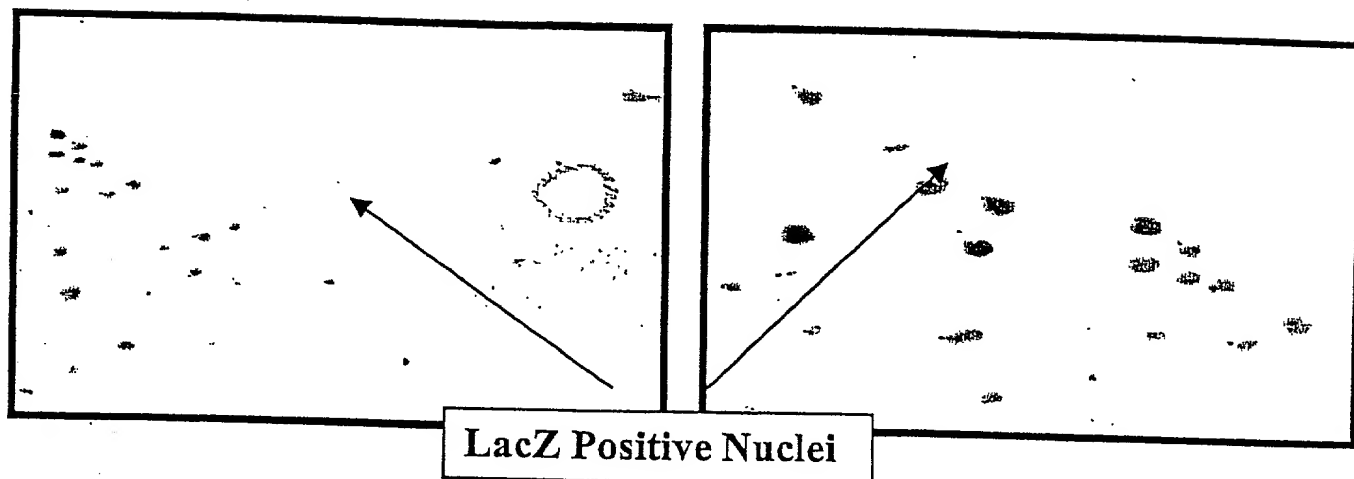


FIG. 6

↓ 5'-end 5'-UTR

rat GLP-2R cDNA aacacttctt ccttgacaa ggaggagtgc agggagccac cgcctcagc ggggtggagg gatgtgctg cacttgtga cggggccag

rat GLP-2R cDNA M R P Q P S P A V P S R C R E A P' V P R V R A Q P V

rat GLP-2R cDNA gaga atg agg ccc caa cca agc ccc gca gtg ccc agt aga tgc aga gag gca ccc gtg ccc cga gtg agg gca cag cca gtc

rat GLP-2R cDNA G I P E A Q G P V P L H S Q Q M

rat GLP-2R cDNA GGC ATC CCT GAG GCC CAG GGG CCC GTT CCT CTC CAC TCC CAA CAG ATG

mouse GLP-2R atgtcttgc ttttctctg ggccttgctg ggaagtccca ggcagcgtag acgtcttggt gtaggtctg ggaataatct

human GLP-2R ccgccttggt ctttctctc agcctgtca ggaagtccca gaaagcacag ctgacttag ga-aggtctg ggaataatct

mouse GLP-2R -203 cccaagattt aggaaggga:--ggcggggg: atgagaaact tggagattcg gtagatcggt gt---agagc aactcagaca

human GLP-2R -123 ccctgctttt gg-ggggga:ggggcgggg: atgagccagg gccgagaagg aactctgaag actccgtaga ttgctctaga

rat GLP-2R Spi1 Spi1 GATA-1 +1 aacactt cctctctgga caaggaggag tgcaggaggc

mouse GLP-2R -43 gtggggggcc -----tgaa gaggaattgt gcaaacactt cctctctgga caaggaggaa tgcaggaggc

human GLP-2R -43 ccgcctcaga cactctggc gcagcgtgga gaggaattgt gcaaacattt cctctctgga ccaaggaggaa tgcaggaggc

rat GLP-2R caccgcc tgca gtacatctt ggagtgttg agggatgtgc ctgcacttgt gaacggggc caggaga atg agg ccc

mouse GLP-2R caccgcc^vtgca^v gtacatctt ggagtgttg agggatgtgc ctgcacttgt gaacggggc caggaga atg agg ccc

human GLP-2R ggctgcc tgcg gtgcattt ggacggctag agagatgtac ccctacttgt gaaggtgcac gaggaag atg aag ctg

rat GLP-2R 38 CAA CCA AGC CCG GCA GTG CCC AGT AGA TGC AGA GAG GCA CCC GTG CCC CGA GTG AGG GCA CAG CCA

mouse GLP-2R CAA CCA AGC CCG GCA GTG CCC AGT AGA TGC AGA GAG C--- -GT CCC TGC CCC GGG CGC ACA

human GLP-2R GGA TCG AGC AGG GCA GGG CCT GGG AGA GGA AGC GCG GGA CTC CTG CCT GGC GTC CAC GAG CTG CCC

rat GLP-2R 114 GTG GGC ATC CCT GAG GCC CAG GGG CCC GTT CCT CTC CAC TCC CAA CAG ATG CGT CTG CTG TGG GGC

mouse GLP-2R GTW GGC CTC CCT GCG GCC CAG GGG CCT GAG TCT CTC CAC KCC CAC GGG ATG CGT CGG CTC TGG GGC

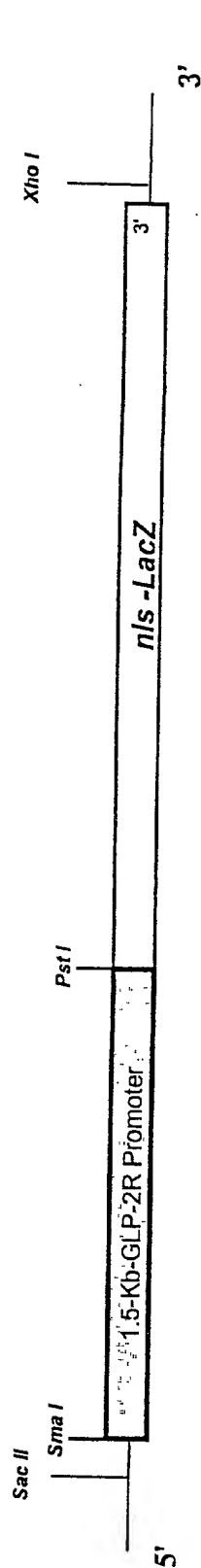
human GLP-2R ATG GGC ATC CCT GCG CCC TGG GGG ACC AGT CCT CTC TCC TTC CAC AGG AAG TGC TCT CTC TGG GGC

rat GLP-2R 180 P G T P F L S L L L L L V S I K Q ↓

mouse GLP-2R GCT GGG AGG CCC TTC CTC GCG CTT CTC CTG GTT TCC ATC AAG CAA

human GLP-2R GCT GGG AGG CCC TTC CTC GCG CTT CTC CTG GTT TCC ATC AAG CAA gtaagaacag----- -attttat tccctatc

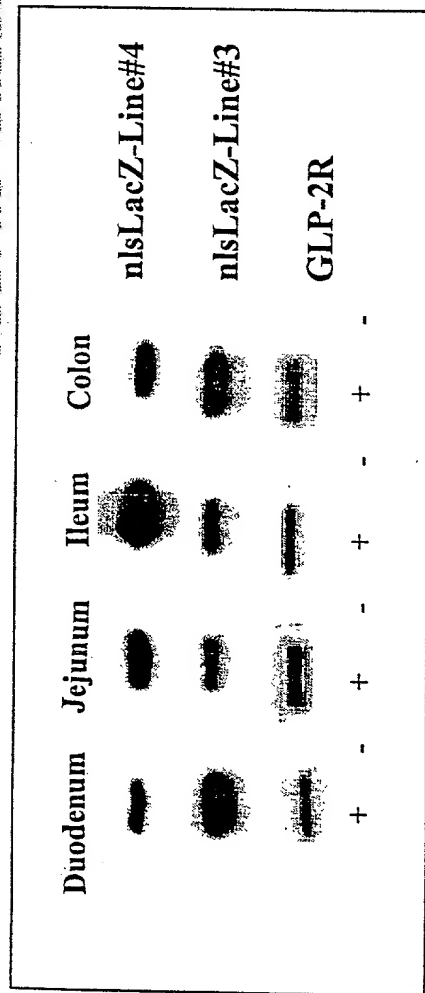
human GLP-2R 246 GCT GGG AGG CCC TTC CTC GCG CTT CTC CTG GTT TCC ATC AAG CAA gtaagaacagttca ttattattat tattatcag



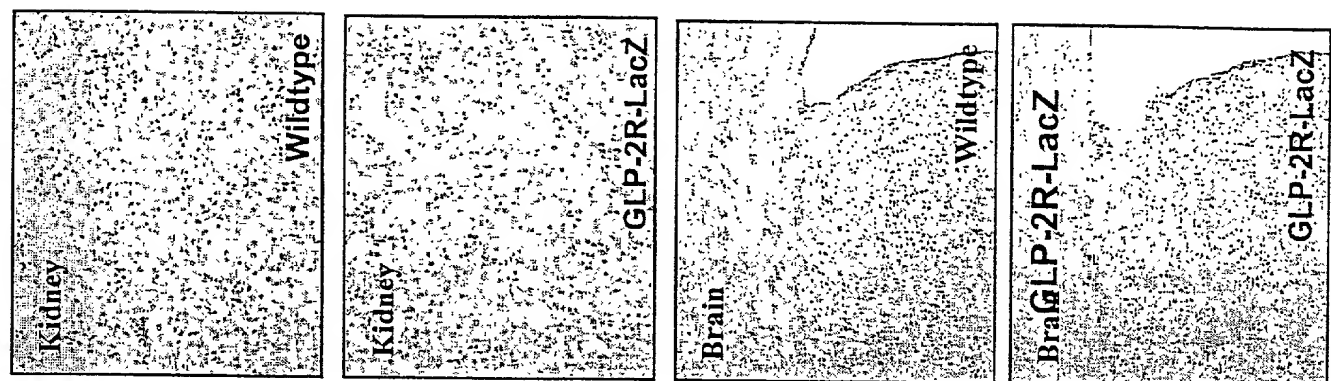
Figure

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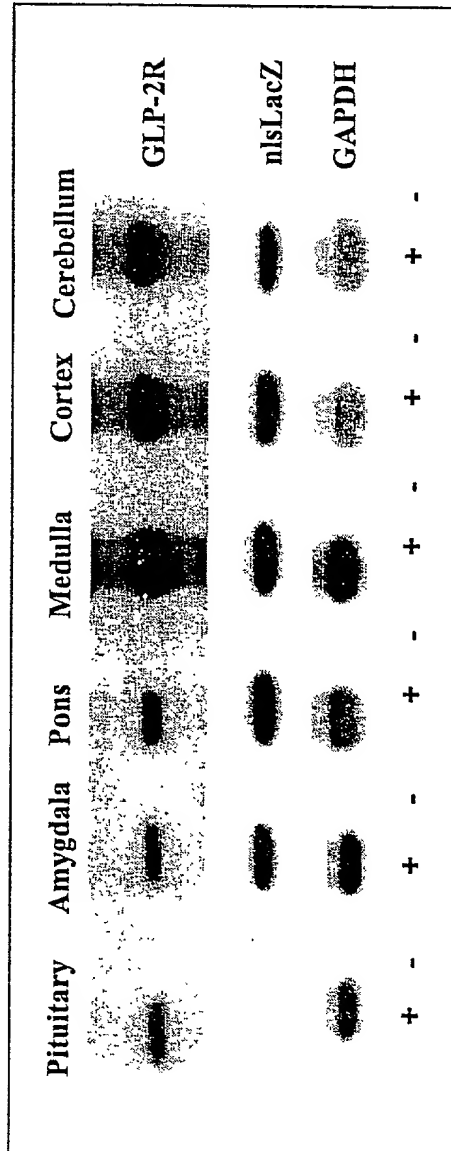
8 a.



8 d.



8 b.



8 c.

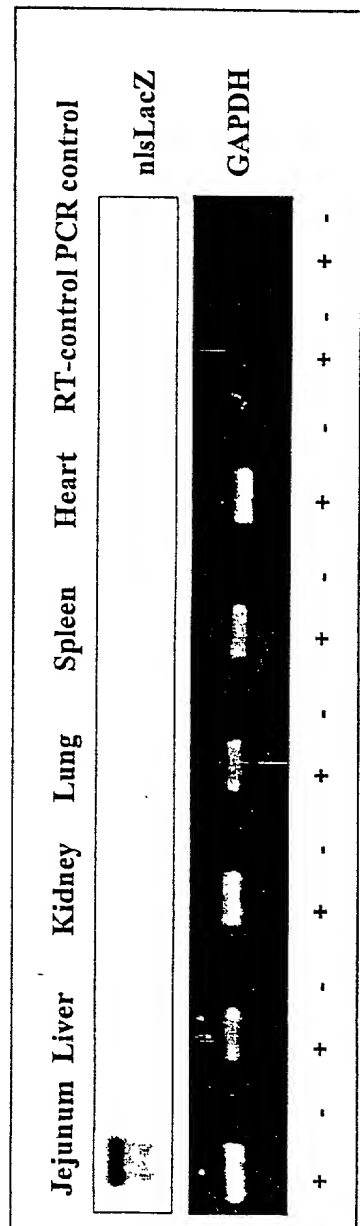
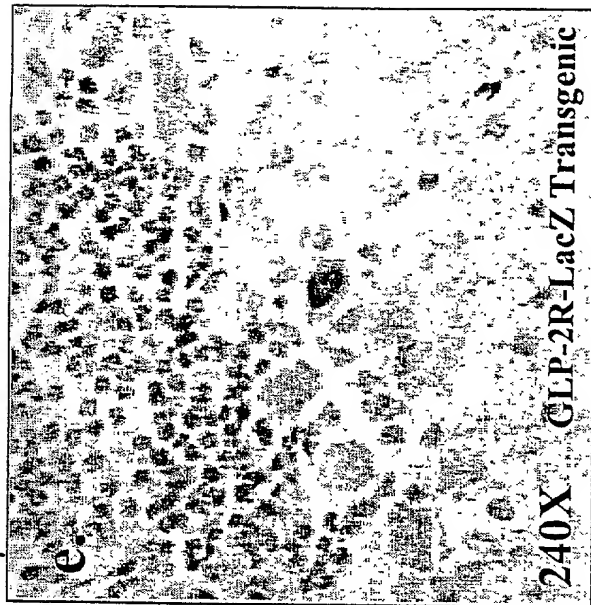
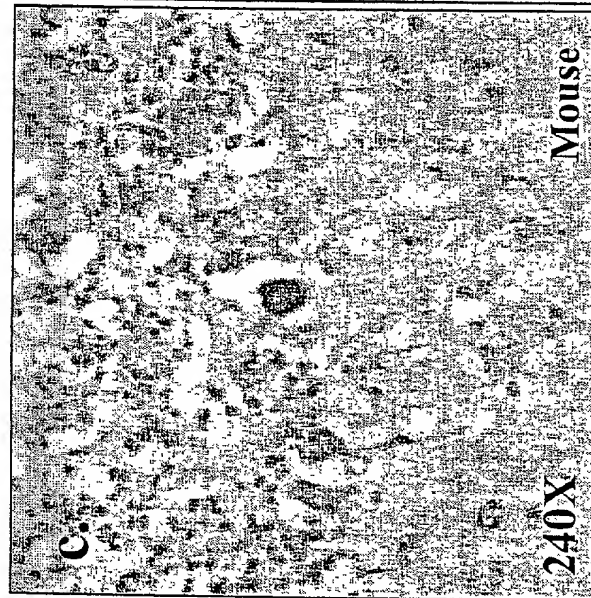
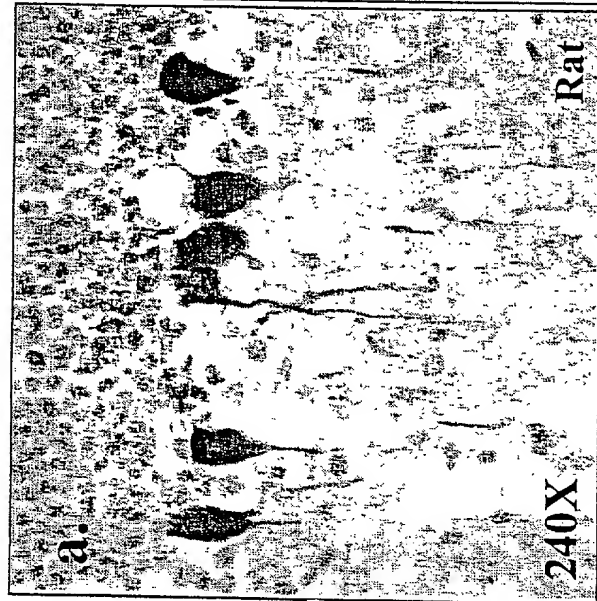


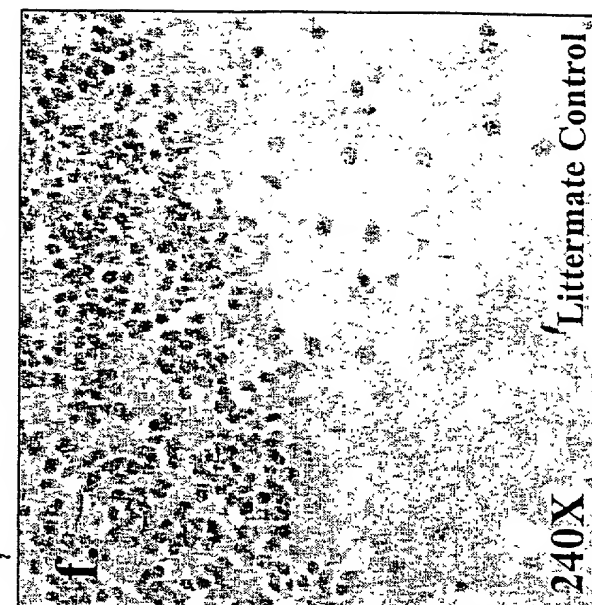
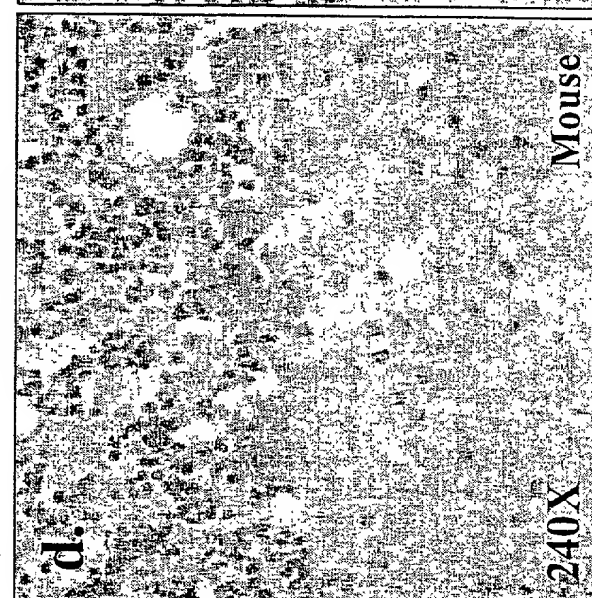
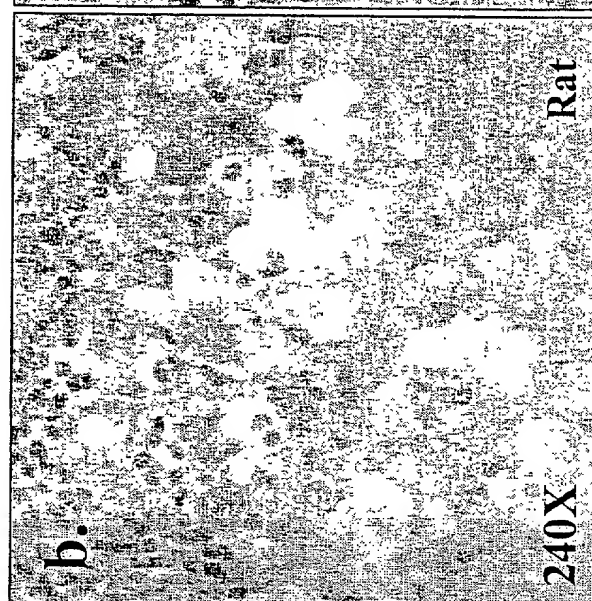
Figure 9

GLP-2R 9 GLP-2R 9 β -Galactosidase



Preimmune

9 Preimmune

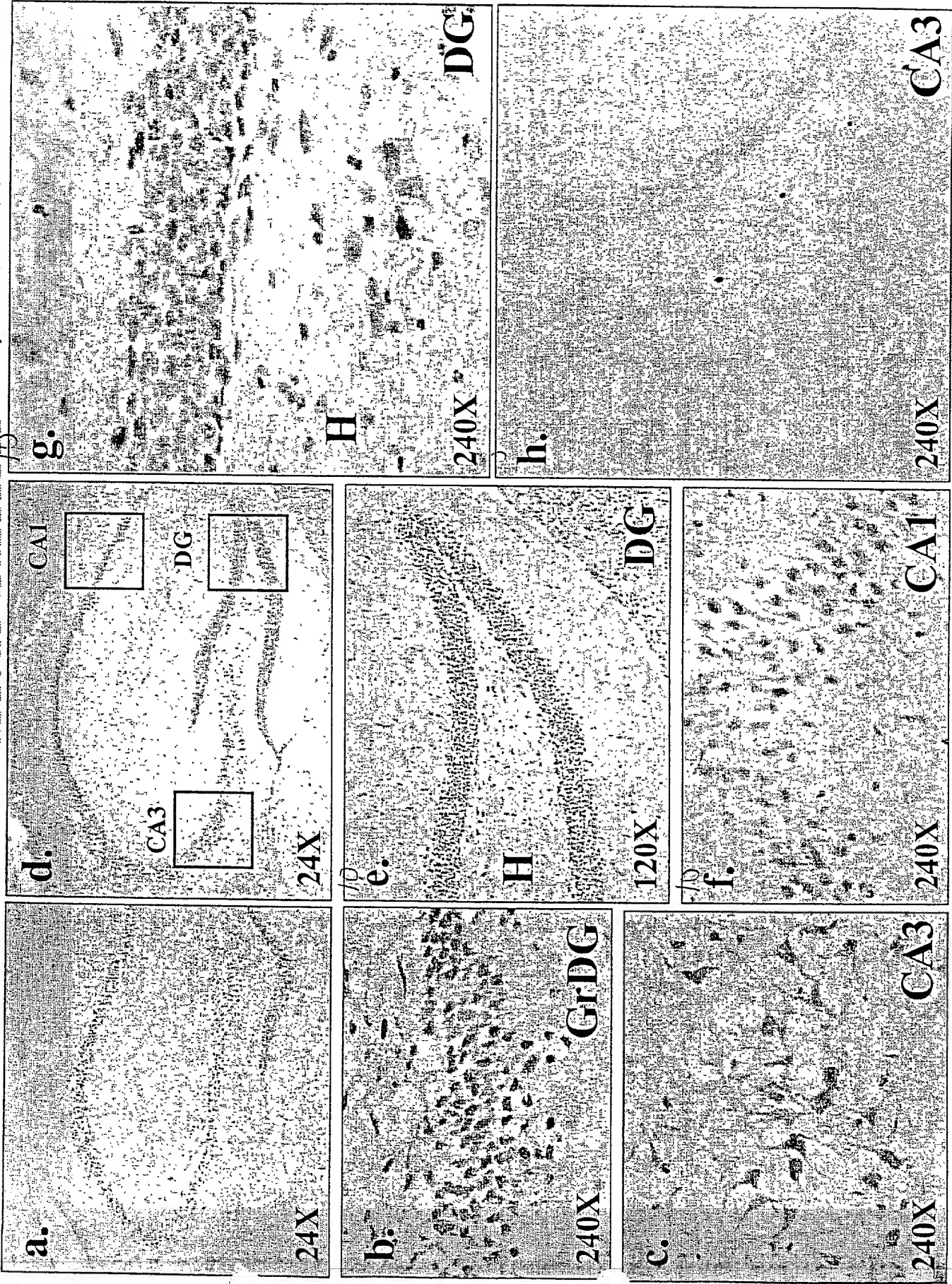


Figure

GLP-2R

β -Galactosidase

β -Galactosidase



Figure

